



DEPARTMENT OF THE ARMY
SAVANNAH DISTRICT, CORPS OF ENGINEERS
100 W. OGLETHORPE AVENUE
SAVANNAH, GEORGIA 31401-3640

REPLY TO
ATTENTION OF:

CESAS-EN-GS

9 December 2011

MEMORANDUM FOR: Commander, South Atlantic Division (CESAS-RBT)

SUBJECT: Approval of Review Plan for Savannah Harbor DMCAs 14A and 14B Dike Raising, Jasper County, South Carolina

1. References.

a. E.C. 1165-2-209, Civil Works Review Policy, 31 January 2010


b. WRDA 2007 H.R. 1495 Public Law 110-114, 08 November 2007

2. I hereby request approval of the enclosed Review Plan and concurrence with the conclusion that Independent External Peer Review (IEPR) is not required. The appropriate level of review determinations are based on the EC 1165-2-209 Risk Informed Decision Process as presented in the Review Plan. The Review Plan complies with applicable policy, provides District Quality Control and Agency Technical Review, and has been coordinated with CESAD. It is my understanding that non-substantive changes to this Review Plan, should they become necessary, are authorized by CESAD.

3. The district will post the CESAD approved Review Plan to its website and provide a link to the CESAD for its use.

FOR THE COMMANDER:

Encl


GORDON L. SIMMONS, P.E.
Chief, Engineering Division

REVIEW PLAN

For

Savannah Harbor Expansion Project DMCAs 14A & 14B Dike Raising

Jasper County, South Carolina

Savannah District

December 9, 2011

THE INFORMATION CONTAINED IN THIS REVIEW PLAN IS DISTRIBUTED SOLELY FOR THE PURPOSE OF PREDISSEMINATION PEER REVIEW UNDER APPLICABLE INFORMATION QUALITY GUIDELINES. IT HAS NOT BEEN FORMALLY DISSEMINATED BY THE U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT. IT DOES NOT REPRESENT AND SHOULD NOT BE CONSTRUED TO REPRESENT ANY AGENCY DETERMINATION OR POLICY.



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1. PURPOSE AND REQUIREMENTS

a. Purpose. This Review Plan defines the scope and level of review activities for the Savannah Harbor DMCA's 14A & 14B Dike Raising Project, Savannah Harbor, Jasper County, South Carolina. Savannah Harbor DMCA's 14A & 14B are major disposal areas for placing dredged material resulting from maintenance and, in particular, expansion dredging of the Savannah Harbor. Improvements needed include raising the dike around the perimeter of both containment areas and performing weir repairs.

b. References.

- (1) ER 1110-2-1150, Engineering and Design for Civil Works Projects, 31 Aug 1999.
- (2) ER 1110-2-12, Engineering and Design Quality Management, 21 Jul 2006
- (3) EC 1165-2-209, Civil Works Review Policy, 31 Jan 2010

c. Requirements. This review plan was developed in accordance with EC 1165-2-209, which establishes an accountable, comprehensive, life-cycle review strategy for Civil Works products by providing a seamless process for review of all Civil Works projects from initial planning through design, construction, and Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R). The EC provides the procedures for ensuring the quality and credibility of U.S. Army Corps of Engineers (USACE) decision, implementation, and operations and maintenance documents and work products. The EC outlines three levels of review: District Quality Control, Agency Technical Review, and Independent External Peer Review.

(1) District Quality Control (DQC). DQC is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the Project Management Plan (PMP). It is managed in the home district and may be conducted by staff in the home district as long as they are not doing the work involved in the study, or overseeing contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for seamless review, quality checks and reviews, supervisory reviews, Project Delivery Team (PDT) reviews, etc. Additionally, the PDT is responsible for a complete reading of the report to assure the overall integrity of the report, technical appendices and the recommendations before approval by the District Commander. The Major Subordinate Command (MSC)/District quality management plans address the conduct and documentation of this fundamental level of review.

(2) Agency Technical Review (ATR). ATR is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of the project/product. The purpose of this review is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams will be comprised of senior USACE personnel (Regional Technical Specialists (RTS), etc.), and may be supplemented by outside experts as appropriate. To assure independence, the leader of the ATR team shall be from outside the parent MSC.

(3) Independent External Peer Review (IEPR). IEPR is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted.

d. Review Management Organization (RMO). The South Atlantic Division (SAD) is designated as the RMO responsible for managing any non-DQC review activities.

2. PROJECT INFORMATION AND BACKGROUND

a. Project Background. Savannah Harbor is located at Savannah on the northern coast of Georgia / southern coast of South Carolina in Chatham and Jasper Counties, respectively. The Savannah River is the line of demarcation separating Georgia from South Carolina. Savannah Harbor Dredge Material

Containment Areas (DMCAs) 14A and 14B, located along the north-east edge of the Savannah River North Channel across from Elba Island, lie in Jasper County, South Carolina. These areas are two of nine confined dredge material containment areas used for dredging the Savannah River channel. DMCAs 14A and 14B were purchased by the Jasper Ocean Terminal Joint Project Office (JPO) from the Georgia Department of Transportation in 2008. DMCA 14A is roughly 670 acres in size and 14B is roughly 730 acres. These disposal areas parallel the Savannah River beginning at approximate channel station 43+000 and extending east to Fields Cut, which is part of the Atlantic Intracoastal Waterway. Dikes have been constructed around the entire perimeter of these areas for confined storage of dredging materials. Although the areas have not always been confined, it has received dredged materials from the Savannah River throughout the 1900's. The disposal areas are drained using a series of water control structures (weirs). Three weirs are located along the river-side of DMCA 14A and empty into the Savannah River. Three of 14B's weirs are along the north-east side of the containment area and empty into the marsh. 14B's fourth weir is on the Fields Cut side of the disposal area. The dikes are periodically raised as needed to increase capacity for dredge spoils. The particular increase in capacity for this project is necessary for the upcoming Savannah Harbor Expansion project. DMCAs 14A and 14B are the current designated locations for placement of sediments containing high levels of cadmium that are to be encountered during the deepening.

b. Project Description – DMCAs 14A & 14B. The Savannah Harbor DMCAs 14A and 14B DiKE Raising Project consists of raising dikes and ramps two to ten feet in elevation around the perimeters of both disposal areas. Repairs and/or modifications to some of the seven weirs will be necessary to ensure proper functioning. It is possible that some of the 14B weirs may need to be moved inward to accommodate the raised 14B dike. The bird islands within the DMCAs will also need to be raised to provide a sanctuary and nesting area for migratory water fowl. Since the bird island must be surrounded by at least 300 feet of water, temporary access roads to the islands will be necessary for mobilization of maintenance equipment. The bird islands require a particular cap material consisting of sandy soils to slow vegetation growth and to provide for the best nesting habitat. Borrow material for dike and ramp fill and for bird island construction will be from the interior of 14B.

3. DISTRICT QUALITY CONTROL

District Quality Control and Quality Assurance activities for implementation documents (DDRs and P&S) are stipulated in ER 1110-1-12, Engineering & Design Quality Management. The design of the Savannah Harbor DMCAs 14A and 14B DiKE Raising Project was prepared by the Savannah District using SAS procedures and will undergo DQC. DQC will be verified by the Agency Technical Review Team.

4. AGENCY TECHNICAL REVIEW

a. Scope. Agency Technical Review (ATR) is undertaken to "ensure the quality and credibility of the government's scientific information" in accordance with EC 1165-2-209 and ER 1110-1-12. An ATR will be performed on the P&S and DDR intermediate and pre-final submittals.

ATR will be conducted by individuals and organizations that are external to the Savannah District. The ATR Team Leader is a Corps of Engineers employee outside the South Atlantic Division. The required disciplines and experience are described below.

ATR comments are documented in the DrCheckssm model review documentation database. DrCheckssm is a module in the ProjNetsm suite of tools developed and operated at ERDC-CERL (www.projnet.org).

At the conclusion of each ATR effort, the ATR team will prepare a Review Report summarizing the review. Review Reports will be considered an integral part of the ATR documentation and shall:

- Identify the document(s) reviewed and the purpose of the review;

- Disclose the names of the reviewers, their organization affiliations, and include a short paragraph on both the credentials and relevant expertise of each reviewer;
- Include the charge to the reviewer;
- Describe the nature of their review and their findings and conclusions;
- Identify and summarize each unresolved issues (if any); and
- Include a verbatim copy of each reviewers comments (either with or without specific attributions), or represent the views of the group as a whole, including any disparate and dissenting views.

b. ATR Disciplines. As stipulated in ER 1110-1-12, ATR members will be sought from the following sources: regional technical specialists (RTS); appointed subject matter experts (SME) from other districts; senior level experts from other districts; Center of Expertise staff; experts from other USACE commands; contractors; academic or other technical experts; or a combination of the above. The ATR Team will be comprised of the following disciplines; knowledge, skills, and abilities; and experience levels.

ATR Team Leader. The ATR team leader should be a registered professional. The team leader may be a co-duty to one of the review disciplines.

Geotechnical Engineering. The team member should be a registered professional. Experience needs to encompass geotechnical analyses that are used to support the development of Plans and Specifications for navigation projects including dike embankments. Extensive knowledge of disposal area and dredging operations is also required. A minimum of 15 years of relative experience is required.

Structural Engineering. The team member should be a registered professional. Experience needs to encompass structural analyses that are used to support development of plans and specifications for projects including HDPE, sheet or timber piling, and structural steel design. A minimum of 10 years of relative experience is required.

5. INDEPENDENT EXTERNAL PEER REVIEW

a. General. EC 1165-2-209 provides implementation guidance for both Sections 2034 and 2035 of the Water Resources Development Act (WRDA) of 2007 (Public Law (P.L.) 110-114). The EC addresses review procedures for both the Planning and the Design and Construction Phases (also referred to in USACE guidance as the Feasibility and the Pre-construction, Engineering and Design Phases).

b. Type I Independent External Peer Review (IEPR) Determination (Section 2034). A Type I IEPR is associated with decision documents. The results of the risk informed decision process performed by the District PDT indicates that the Savannah Harbor DMCA s14A and 14B Dike Raising Project documents are not decision documents and Type I IEPR is not required/needed.

c. Type II Independent External Peer Review (IEPR) Determination (Section 2035). This project does not trigger WRDA 2007 Section 2035 factors for Safety Assurance Review (termed Type II IEPR in EC 1165-2-209) and therefore, a review under Section 2035 is not required. The factors in determining whether a review of design and construction activities of a project is necessary as stated under Section 2035 along with this review plans applicability statement follow.

- (1) The failure of the project would pose a significant threat to human life.

This will include raising the perimeter dikes surrounding Savannah Harbor DMCA's 14A and 14B approximately two to ten feet, performing repairs to or replacement of the existing weirs and raising the current bird islands. Failure or loss of the dike or weirs will not pose a significant threat to human life.

- (2) The project involves the use of innovative materials or techniques.

This project is routine and will utilize methods and procedures used by the Corps of Engineers on other similar works.

(3) The project design lacks redundancy.

The design is in accordance with applicable USACE Engineer Manuals. The manuals do not address the concept of redundancy for dike design. The concept of redundancy is not applicable to this disposal area dike raising effort.

(4) The project has a unique construction sequencing or a reduced or overlapping design construction schedule.

The Project is routine and does not have unique construction sequencing or a reduced or overlapping design construction schedule. The installation sequence and schedule have been used successfully by the Corps of Engineers on other similar works.

6. MODEL CERTIFICATION AND APPROVAL

This disposal area improvement project does not use any engineering models that have not been approved for use by USACE.

7. BUDGET AND SCHEDULE

a. Project Milestones.

District Quality Control Completed – 28 February 2012

ATR Review Completed – 29 March 2012

BCOE Review Completed – 15 November 2012

Advertisement – 15 March 2013

Contract Award – 15 May 2013

b. ATR Estimated Cost. The ATR will be conducted at the beginning of March. Each reviewer will be provided funds based on level of effort for each discipline. The estimated cost is \$16,000.

8. POINTS OF CONTACT

For additional information on this review plan, please email Savannah District Corporate Communications Office at CESAS-CCO@usace.army.mil.